

**UNIVERSITY OF SAN DIEGO**  
**ENVIRONMENTAL AND OCEAN SCIENCES**  
**EOSC110: INTRODUCTION TO GEOSCIENCES/SPRING 2024**  
**Lecture MW 2:30-3:50 & Lab Thursday/Friday 2:30-5:20**

**LECTURE INSTRUCTOR:** Professor Elizabeth (Liz) Baker Treloar (ok to call me Liz!)

- **office:** ST264
- **email:** ebaker@sandiego.edu
- **office hours:** **MW: 12:30-2:00** and **by appointment**.
  - PLEASE try to remember to send email **BEFORE** you come to the office.

**THURS. LAB INSTRUCTOR:** Professor Eric Cathcart

- **office:** SCST 264
- **email:** cathcart@sandiego.edu
- **office hours:** **MW: 12:00-2:00; Thursday: 11AM-Noon** and **by appointment**.

**FRI. LAB INSTRUCTOR:** Professor Ray Rector

- **office:** SCST 262 (the lab)
- **email:** [geoprof@geoscirocks.com](mailto:geoprof@geoscirocks.com) / **Website:** [www.geoscirocks.com](http://www.geoscirocks.com)
- **office hours:** **Friday: 1:30-2:30**

**TEXTBOOKS:**

- **Lecture:** **Free online** text on Canvas: <https://opengeology.org/textbook/> This will help supplement lecture material.
- **Lab (required):** **EOSC110 Laboratory “Reader”** by Baker Treloar and Rector. This will **ONLY be available through the EOSC department** and will be passed out during the first lab meeting. **No charge**, cost included in pre-paid lab fee.

**MAJOR AND CORE INFORMATION:**

EOSC110 is designed as preparation course for the Environmental and Ocean Sciences major and minor. EOSC110 will also fulfill the **Core curriculum** explorations *Science and Technological Inquiry (ESTI)* requirement and *Quantitative Reasoning competency (CQR,)* for **all majors**.

**COURSE DESCRIPTION:**

Geoscience is an interdisciplinary **study of Earth**, it's dynamic processes and the interactions between the components (spheres) of the “earth system”. Geoscience addresses the processes that form and shape Earth's interior and surface (geosphere), the natural resources we use, and how the solid earth, water, ecosystems, and people are interconnected. Though the geosphere (solid earth) will be the focus, we will also study interactions between the geosphere, atmosphere, hydrosphere and how humans (biosphere) affect the world we live in. The course will conclude with a brief overview of Earth history with an emphasis on the physical processes and conditions that affected the evolution of life. In addition, in lab and the field, students will practice the skills of geoscience which include observation, measurement, and scientific problem solving. The relevance of geosciences to address the critical environmental issues facing society such as depletion of natural resources, mitigating the impacts of natural hazards, and climate change will be emphasized.

**COURSE LEARNING OUTCOMES (LECTURE AND LAB COMBINED)** *modified from Dr. Beth O’Shea*

The course learning outcomes are divided into two key components; **KNOWLEDGE** and **SKILLS**.

**KNOWLEDGE** refers to the geoscience content base that you will develop as you learn about the fundamental concepts of geoscience. These knowledge or content learning outcomes include:

**Geoscience Learning Outcomes (G\_LO)**

**Students will understand the fundamental principles of physical and historical Geology:**

1. Identify earth materials (mineral and rocks) and connect them to the processes that play a role in their formation.
2. Describe the internal structure of earth, and the processes that modify earth's surface.
3. Discuss the geological processes and features related to plate tectonic activity.
4. List and discuss some significant historical geologic events that affected life on planet Earth.
5. Understand the interconnectedness of Earth's spheres by describing the rock, plate tectonic, and hydrologic cycles.
6. Acquire basic skills of observation, measurements, problem solving in lab and field settings and a conceptual understanding of the process of scientific inquiry.



**SKILLS** refer to the scientific ‘habits of mind’, or skill set, frequently used by earth scientists. Some of these scientific skills are numeracy and math skills (i.e., quantitative reasoning), analysis of spatial and temporal scales, estimation of uncertainty, and data analysis and interpretation. The learning outcomes for **Quantitative Reasoning** in **USD’s Core Curriculum** will thus be met by taking this course:

#### **Quantitative Reasoning (CQR) Learning Outcomes (QR\_LO)**

1. **Identification:** Recognize and select quantitative information that is relevant to the argument (e.g., extract necessary data from larger datasets that may also contain non-relevant information).
2. **Calculation and Organization:** Perform any necessary calculations (e.g., converting units, standardizing rates, applying formulas, solving equations), and put data into comparable forms (e.g. graphs, diagrams, tables, words).
3. **Interpretation:** Interpret and explain data in mathematical forms, such as analyzing trends in graphs and making reasonable predictions about what the data suggest about future events.
4. **Evaluate Assumptions and Recognize Limitations:** Make and evaluate important assumptions in estimating, modeling, and analysis of quantitative data as well as recognizing their limitations.
5. **Justification:** Communicate carefully qualified conclusions and express quantitative evidence to support arguments.

We will also **use these skills in the process of scientific inquiry**. Hence, the learning outcomes for **ESTI in the Core** are:

#### **Scientific and Technological Inquiry (ESTI) Learning Outcomes (ST\_LO)**

1. Design and conduct an experimental and/or observational investigation to generate scientific knowledge or a technological solution to a problem.
2. Analyze data using methods appropriate to the natural sciences and/or engineering in order to make valid and reliable interpretations.
3. Explain the basic scientific concepts and theories relevant to the area of study.
4. Identify and use appropriate and sufficient scientific evidence to evaluate claims and explanations about the natural and designed world.

#### **COURSE INFORMATION AND POLICIES: PLEASE BE FAMILIAR WITH THE FOLLOWING**

- **Regular ATTENDANCE** and being **attentive in class** are critical to your understanding of the subject matter and will improve your performance on the exams. As an introductory class, there is **a lot of essential information** and new terminology. **Emphasis will be on integration of terms and concepts, focusing on critical thinking;** it never works well to memorize “mechanically”, it is **important to understand the material**.
- **Check your email and Canvas:** announcements and important information about the course will be posted on Canvas.
- **CANVAS CONTENT:** lecture and lab PPT presentations, lecture notes, study guides, animations, links to helpful websites, assignments, quizzes, Panopto video recordings, free lecture text and lab manuals, and quiz and exam scores.
- **BE RESPECTFUL** of your instructors and fellow students:
  - PLEASE TURN SOUND OFF ON **PHONES** AND PUT **AWAY (off desks and laps)**
  - **NO electronic devices** (laptops, pads, etc.) **for taking notes in the lecture.** ☹
    - If you have permission from DLDRC or a valid reason for using a pad or laptop to take notes please let us know.
  - Please do not **make a habit of excusing yourself in the middle of lecture** or arriving late.
- **FIELD TRIPS:** field trips are an essential component of the course.
  - Conflicts due to participation in sports events are not valid.
  - **If you are unable to attend due to a critical emergency or illness, a valid documentation of the emergency must be presented.** PLEASE communicate ASAP and do not attempt to attend if you are having any illness symptoms.
  - If a student **misses** the field trip **without a valid reason**, the field trip worksheet grade will be a zero.
  - **Mandatory Saturday field trip outside of class or lab time: Saturday April 6th: ~ 7:00 AM to ~ 5:00 PM:**
    - **Details will be discussed closer to the time of the field trip**
  - **Kumeyaay Land Acknowledgement:** *The land on which we gather is the traditional and unceded territory of the Kumeyaay Nation. We pay respect to the citizens of the Kumeyaay Nation, both past and present, and their continuing relationship to their ancestral lands.*
- **LECTURE EXAMS:** will cover course material presented in lecture and any additional information posted on Blackboard (you will be notified in class). The free online text: **An Introduction to Geology**, is an excellent resource to supplement lectures. Each exam/quiz is comprehensive and covers material prior to the exam date, however, will focus on the more recent material.
  - **Make up exams or quizzes**, you must have **valid documentation** of an illness or emergency, or by prior arrangement. Without a valid excuse or prior arrangement, you will not be allowed to make up an exam or quiz.
  - Please stay home to keep others healthy. **Students must alert the instructor before the exam start time** with documented symptoms. A makeup time or makeup assignment (if a lab is missed), which may be different from the format of the original exam questions or assignment. **Each case will be addressed individually.**

**ACADEMIC INTEGRITY:** You are responsible to have read and fully understand the meaning and expectations of academic integrity. Any suspected violations of academic integrity will be referred to the Dean of Arts and Sciences and may result in a failing grade for the course. Please review the [Academic Integrity Policy](#), which can be found in the University's Policy and Procedure Manual, this is available as a PDF file: <https://www.sandiego.edu/conuct/documents/Honor-Code.pdf>

#### **GENERAL WELLNESS:**

- **Possible absences:** Please **communicate ASAP in person or by email** with your professors.
- **Please let us know if you have a health concern and will be missing lecture or lab**
- The COVID-19 pandemic has taught us that we need to change the way we behave when we have symptoms. If you are not feeling well, please consider staying home to keep others healthy. Take a look at [USD's current COVID-19 policies](#). While the current campus protocol does not require masks in every classroom, please feel free to wear one. Let's keep each other healthy and safe.

**HELPFUL RESOURCES:** Please **communicate** any concerns or special needs in a timely manner.

- **Student Technology Resources:** <https://www.sandiego.edu/its/get-help/student-resources/>
- **One Stop Student Center:** <https://www.sandiego.edu/one-stop/>
  - Financial Aid, Student Accounts and Registration questions.
- **Tutoring and Centers:** <https://www.sandiego.edu/cas/student-resources/tutoring-and-centers.php>
- **Counseling Center** 24/7 access to a counselor: (619) 260-4655, press 1 for urgent concerns
- **Disability and Learning Difference Resource Center:** [www.sandiego.edu/disability/](http://www.sandiego.edu/disability/)
- **Student Health Center MyWellness Portal** <https://mywellness.sandiego.edu/>
  - Non-urgent email [usdhealthcenter@sandiego.edu](mailto:usdhealthcenter@sandiego.edu)
- **Campus Assault Resources and Education:** <https://www.sandiego.edu/care/>

#### **LAB POLICIES:**

- **Lecture & lab coordination.** Lecture discussions and lab activities support and reinforce each other. However, the order of topic coverage may vary such that sometimes you will be introduced to new concepts in lab and then explore them more deeply in lecture and vice versa. In other words, due to logistical constraints, **lecture and lab will not always be integrated** week by week. It will be important to come into lab prepared as the material may not yet have been covered in lecture
- **Every student is expected to do their own work** (complete lab activity worksheet) **even though exercises are a group effort.**
- Excused absences require previous notification and **verification** in case of illness or an unexpected emergency.
- **Exam questions** will be drawn from the lab discussion (PPT slides), lab exercises, and field trips. Questions may be multiple choice, short answer, fill in the blank, identifying hand samples, figures, or photo identification.
- Attendance is required in order to succeed. **Lab attendance will be recorded each lab period.**
- **Pre-labs and assignments:** Pre-lab exercises will be **due before lab starts.**
- Take-home assignments are designed to reinforce the lab topics; it is to your advantage to individually learn and understand each lab carefully. All lab and take-home assignments are due at the scheduled time.

#### **LAB AND FIELD SAFETY:**

- When an emergency happens while you are in the LAB SCST 262, do not use the elevators or the central staircase. Evacuate the building using the **west** stairway (**turn to your left as you leave lab**) and exit on the 1st floor. Go to the assembly area in front of the IPJ immediately and report to your instructor and/or the Emergency Personnel.
- **Always**, wear **closed-toed shoes** in lab and in the field.
- **No food or drinks in the lab.** Leave all food and drinks on table outside the entrance to lab.
- **Please contact your lab instructor immediately for any safety or health issues of concern in lab or the field.**



**COURSE EVALUATION AND GRADING POLICY:** subject to change

- **65% of course grade from lecture performance:**
  - Exams and Quizzes
  - Possible assignments in a quiz format on Canvas
  - Attendance, punctuality, participation, and attitude are considered.
  - **THERE ARE NO EXTRA CREDIT** assignments
- **35% of course grade from lab performance:**
  - 30%: Lab and field exercises, attendance, punctuality, participation in lab and field.
  - 70%: Exams and quizzes
  - **THERE ARE NO EXTRA CREDIT** assignments
  - Points will be deducted:
    - Lab assignments turned in late without an extension.
    - Missing lab without giving notice and valid excuse.
    - Leaving lab or the field early without completing and turning in the exercise.
    - **Forgetting to bring the lab reader** to lab more than twice. ☹️
- You will receive one course grade for the lecture and lab combined. The **lecture** will count for **65%** of your final grade and the **lab** will count for **35%** of your final grade.
- **You must receive a passing grade in both the lecture and the lab in order to pass the course.**
- Exams, quizzes, and course grade will be determined using the following scale: *Please do not ask if grades are curved*  
100-90% **A to A-**; 89-80% **B+ to B-**; 79-66% **C+ to C-**; 65-55% **D+ to D-**; < 55% **F**

**IF YOU WANT TO DO WELL IN THIS CLASS: please READ the following:**

- Do not miss lecture or lab on purpose.
- Pay attention and focus when you are in lecture and lab....**cannot emphasize this enough!!**
- Complete the lecture notes during lecture.
- **Your homework each week:**
  - **After lecture** (by the end of each week) **read appropriate pages in FREE lecture text**, pay attention to figures, and **review lecture notes**.
  - Take advantage of the PPT lectures on Canvas to “fill in the gaps” you missed in lecture on the lecture notes
- **Attend office hours** if you have questions.
- **Before the exam** (days not hours!): Complete the study guide **first on your own**, this will encourage you to go through **your** notes and textbook AGAIN.
- Work with other students in the class if you want to review and compare notes, **after** completing the study guide on your own time.
- The study guide is a “guide” to help you review. **The questions on the study guide will encourage you to think about concepts, understand new terms, and most important, connect and see the “big picture”.**
- **You must understand processes** (*plate tectonics, erosion, etc.*) and also be able to **think spatially and temporally** (*e.g. Explain how calcium in an outcrop (rock exposure) of limestone can end up in a bivalve shell in the ocean 75 million yrs. later and 1000's of km away*). **This is the most challenging part about learning Geoscience.** It is easy to memorize definitions to terms, however, it is essential to see how they **connect by understanding geologic processes**.
- Exam questions, whether they are multiple choice or short answer, will be designed to see if you have achieved the statement above.

**ENJOY THE COURSE!**

## EOSC110: LECTURE OUTLINE AND READING FOR SPRING 2024

SUBJECT TO CHANGE, INCLUDES QUIZ & EXAM DATES

Week of: Includes Mon. & Wed.	Topic	READ RELEVANT INFORMATION after lecture
1/29	<ul style="list-style-type: none"> <li>Introduction to the Course</li> <li>Geologic Time</li> <li>Earth's Origin</li> </ul>	Review course syllabus <ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/7-geologic-time/">https://opengeology.org/textbook/7-geologic-time/</a></li> <li><a href="https://opengeology.org/textbook/8-earth-history/#82_Origin_of_the_Solar_System_The_Nebular_Hypothesis">https://opengeology.org/textbook/8-earth-history/#82_Origin_of_the_Solar_System_The_Nebular_Hypothesis</a></li> </ul>
2/5	<ul style="list-style-type: none"> <li>Earths Layers (crust to core)</li> <li>The Geosphere</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/2-plate-tectonics/#22_Layers_of_the_Earth">https://opengeology.org/textbook/2-plate-tectonics/#22_Layers_of_the_Earth</a></li> <li><a href="https://opengeology.org/textbook/12-shorelines/#1225_Submarine_Canyons">https://opengeology.org/textbook/12-shorelines/#1225_Submarine_Canyons</a></li> </ul>
2/12	<ul style="list-style-type: none"> <li>Earth's Internal Heat</li> <li>Introduction to Plate Tectonics</li> <li>Plate Boundaries               <ul style="list-style-type: none"> <li>Divergent</li> <li>Paleomagnetism</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/7-geologic-time/#72_Absolute_Dating">https://opengeology.org/textbook/7-geologic-time/#72_Absolute_Dating</a></li> <li><a href="https://opengeology.org/textbook/2-plate-tectonics/">https://opengeology.org/textbook/2-plate-tectonics/</a></li> <li><a href="https://opengeology.org/textbook/2-plate-tectonics/#223_Plate_Tectonic_Boundaries">https://opengeology.org/textbook/2-plate-tectonics/#223_Plate_Tectonic_Boundaries</a></li> </ul>
2/19	<ul style="list-style-type: none"> <li>Plate Boundaries <i>cont.</i> <ul style="list-style-type: none"> <li>Convergent_Subduction</li> </ul> </li> <li>QUIZ 1 (Wed. or Mon. next week)</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/#451_Distribution_and_Tectonics">https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/#451_Distribution_and_Tectonics</a></li> <li><a href="https://opengeology.org/textbook/2-plate-tectonics/#213_Development_of_Plate_Tectonic_Theory">https://opengeology.org/textbook/2-plate-tectonics/#213_Development_of_Plate_Tectonic_Theory</a></li> <li>See Study Guide</li> </ul>
2/26 <i>Lab exam 1 (Thurs. &amp; Fri.)</i>	<ul style="list-style-type: none"> <li>Plate Boundaries <i>cont.</i> <ul style="list-style-type: none"> <li>C-C Convergent</li> <li>Transform</li> </ul> </li> <li>Hotspots</li> <li>Review Silicate Minerals and Igneous Rocks</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/2-plate-tectonics/#27_Hotspots">https://opengeology.org/textbook/2-plate-tectonics/#27_Hotspots</a></li> <li><a href="https://opengeology.org/textbook/3-minerals/">https://opengeology.org/textbook/3-minerals/</a></li> <li><a href="https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/">https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/</a></li> </ul>
3/4	<ul style="list-style-type: none"> <li>Intrusive activity</li> <li>Sedimentary Rocks</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/">https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/</a></li> <li><a href="https://opengeology.org/textbook/5-weathering-erosion-and-sedimentary-rocks/#53_Sedimentary_rocks">https://opengeology.org/textbook/5-weathering-erosion-and-sedimentary-rocks/#53_Sedimentary_rocks</a></li> <li><a href="https://opengeology.org/textbook/13-deserts/#133_Desert_landforms">https://opengeology.org/textbook/13-deserts/#133_Desert_landforms</a> (see alluvial fans)</li> </ul>
3/11	<ul style="list-style-type: none"> <li>Finish Sed. Rocks</li> <li>Geologic Structures (folds &amp; faults) (<i>not on exam 1</i>)</li> <li>EXAM 1 (Wed. or Mon. next week) (G_LO2,3)</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/">https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/</a></li> <li><a href="https://opengeology.org/textbook/13-deserts/#134_The_Great_Basin_and_the_Basin_and_Range">https://opengeology.org/textbook/13-deserts/#134_The_Great_Basin_and_the_Basin_and_Range</a></li> <li>See Study Guide</li> </ul>
3/18	<ul style="list-style-type: none"> <li>Earthquakes</li> <li>EQ hazards</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/">https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/</a></li> <li><a href="https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/#98_Earthquake_Risk">https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/#98_Earthquake_Risk</a></li> </ul>
3/25 – 4/1	<b>SPRING BREAK</b>	
4/3 Wed.	<ul style="list-style-type: none"> <li>Finish EQ Hazards</li> <li>San Andreas Fault and S. CA Faults</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/#991_North_American_Earthquakes_">https://opengeology.org/textbook/9-crustal-deformation-and-earthquakes/#991_North_American_Earthquakes_</a></li> </ul>
4/6 Sat.	<b>Mandatory Saturday Field Trip</b>	
	(G_LO1,2,3,6); (ST_LO1,2,3,4)	

4/8	<ul style="list-style-type: none"> <li>• Finish CA faults</li> <li>• Weathering</li> <li>• QUIZ 2 ? (on Canvas)</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://opengeology.org/textbook/5-weathering-erosion-and-sedimentary-rocks/#52_Weathering_and_Erosion">https://opengeology.org/textbook/5-weathering-erosion-and-sedimentary-rocks/#52_Weathering_and_Erosion</a></li> </ul>
4/15	<ul style="list-style-type: none"> <li>• Rivers</li> <li>• Groundwater</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://opengeology.org/textbook/11-water/">https://opengeology.org/textbook/11-water/</a></li> <li>• <a href="https://opengeology.org/textbook/11-water/#116_Groundwater">https://opengeology.org/textbook/11-water/#116_Groundwater</a></li> </ul>
4/22	<ul style="list-style-type: none"> <li>• EXAM 2 (day TBA) (G_LO2,3)</li> <li>• Volcanoes</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/#45_Volcanism">https://opengeology.org/textbook/4-igneous-processes-and-volcanoes/#45_Volcanism</a></li> </ul>
4/29	<ul style="list-style-type: none"> <li>• Volcanoes</li> <li>• Glaciers &amp; Climate</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://opengeology.org/textbook/15-global-climate-change/#1513_Greenhouse_Effect">https://opengeology.org/textbook/15-global-climate-change/#1513_Greenhouse_Effect</a></li> <li>• <a href="https://opengeology.org/textbook/14-glaciers/#145_Ice_Age_Glaciations">https://opengeology.org/textbook/14-glaciers/#145_Ice_Age_Glaciations</a></li> </ul>
5/6	<ul style="list-style-type: none"> <li>• The Precambrian</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://opengeology.org/textbook/8-earth-history/">https://opengeology.org/textbook/8-earth-history/</a></li> <li>• <a href="https://opengeology.org/textbook/15-global-climate-change/#153_Prehistoric_Climate_Change">https://opengeology.org/textbook/15-global-climate-change/#153_Prehistoric_Climate_Change</a></li> </ul>
5/13 Mon. <i>Lab Final (Thurs. &amp; Fri.)</i>	<ul style="list-style-type: none"> <li>• The Phanerozoic</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://opengeology.org/textbook/8-earth-history/">https://opengeology.org/textbook/8-earth-history/</a></li> </ul>
5/20 Mon.	Exam 3 (Final): (G_LO4,5) 11:00-1:00	See Study Guide No early exams please

**EOSC110: LAB SCHEDULE FOR SPRING 2024**  
**SUBJECT TO CHANGE (INCLUDING QUIZZES AND EXAMS)**

Lab	Thursday Friday	TOPIC (both sections cover same topic) <i>(G_LO6) all topics</i>	LAB READER <i>NOTE: some labs are out of sequence in Reader</i>
1	2/1 2/2	Review lab policies and safety Geologic Time / Conversions <b>Take-home:</b> Conversion exercise	<a href="#">READER exercise</a> p. 3-10 ( <i>QR_LO2</i> ) <a href="#">READER</a> p. 27-32 ( <i>QR_LO2</i> )
2	2/8 2/9	Rock Density / Minerals Geologic Time <b>Quiz</b> ( <i>first ~ 15 min.</i> ) <b>Pre-lab DUE</b> p. 14 <b>Unit Conversions DUE</b>	<a href="#">READER exercise</a> p. 11-13 / p. 14-16 ( <i>ST_LO1</i> ); ( <i>G_LO1</i> )
3	2/15 2/16	Mineral <b>Quiz</b> ( <i>first ~ 20 min.</i> ) Rocks <b>Pre-lab DUE</b> p. 17-18	<a href="#">READER exercise</a> p. 17-26 ( <i>G_LO1</i> )
4	2/22 2/23	Plate Tectonics and Isostasy	<a href="#">READER exercise</a> p. 33-45 ( <i>QR_LO1,2,3,4,5</i> ); ( <i>G_LO3</i> )
5	<b>2/29</b> <b>3/1</b>	<b>Lab Exam 1</b> ( <i>G_LO1, 3</i> ); ( <i>QR_LO1,2,3,5</i> )	<a href="#">SEE Study Guide:</a> Minerals, Rocks, and Plate Tectonics
6	3/7 3/8	Topographic Maps <b>Pre-lab DUE</b> p. 46	<a href="#">READER exercise</a> p. 46-52 ( <i>ST_LO2</i> ); ( <i>QR_LO2,3</i> )
7	3/14 3/15	Relative Dating	<a href="#">READER exercise</a> p. 53-55 ( <i>ST_LO2</i> )
8	3/21 3/22	Topo. map <b>Quiz</b> ( <i>first ~ 30 min.</i> ) Geologic Structures and Maps (folds and faults)	<a href="#">READER exercise</a> p. 56-66 ( <i>ST_LO2</i> )
	3/25 – 4/1	<b>SPRING BREAK</b>	
9	4/4 4/5	Pre-Field Trip Lecture and Exercise	<a href="#">READER exercise</a> p. 74-77
	<b>4/6</b> <b>Sat.</b>	<b>MANDATORY SATURDAY FIELD TRIP</b>	<a href="#">Field Trip exercise</a> ( <i>not in Reader, handed out morning of trip</i> ) ( <i>G_LO1,2,3,6</i> ); ( <i>ST_LO1,2,3,4</i> )
	4/11 4/12	<b>NO LAB MEETING</b>	Lab off for attending Sat. field trip ☺
10	4/18 4/19	Tourmaline Beach Field Trip <b>Pre-lab DUE</b> p. 56	<b>BRING:</b> <a href="#">READER exercise</a> p. 56-62 See Canvas for Tourmaline Beach information to help with the prelab. ( <i>G_LO1,3,6</i> ); ( <i>ST_LO1,2,3,4</i> )
11	4/25 4/26	Fossils	<a href="#">READER exercise</a> p. 78-86 ( <i>G_LO4</i> ) <i>Fossil manual available in lab</i>
12	5/2 5/3	Review Lab	Exercise is <b>not</b> in the lab reader
13	<b>5/9</b> <b>5/10</b>	<b>Lab Exam 2 (final)</b> ( <i>G_LO4,6</i> ); ( <i>ST_LO2,3,4</i> )	<a href="#">SEE Study Guide:</a> all labs since exam 1 and Sat. field Trip

**PLEASE BRING YOUR "LABORATORY READER" TO EACH LAB CLASS.**

